

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

POWER INTEGRATIONS, INC.,	)	
	)	
Plaintiff,	)	C.A. No. 04-1371-JJF
	)	
v.	)	
	)	
FAIRCHILD SEMICONDUCTOR	)	
INTERNATIONAL, INC., and FAIRCHILD	)	
SEMICONDUCTOR CORPORATION,	)	
	)	
Defendants.	)	

**OPENING BRIEF IN SUPPORT OF DEFENDANTS' REQUEST TO USE ELEVEN  
PRIOR ART REFERENCES DURING THE INVALIDITY PHASE OF TRIAL**

Fairchild respectfully submits this opening brief requesting the use of eleven prior art references for the upcoming invalidity phase of the trial. In its September 20 Memorandum Opinion (D.I. 384), the Court limited Fairchild's invalidity case to seven prior art references. Because Power Integrations is asserting seven claims from four different patents, the Court's order has the effect of limiting Fairchild to one prior art reference per asserted claim. Fairchild requested reconsideration of that order. In response to Fairchild's motion for reconsideration, the Court indicated that it would allow Fairchild to submit additional prior art if Fairchild could show that the additional prior art references were critical to its case.<sup>1</sup> [D.I. 416, at pp. 101-102]

<sup>1</sup> Fairchild maintains its objection to the Court's limitation of Fairchild asserted prior art to only a subset of the references properly identified in Fairchild's "Notice Of Prior Art Pursuant To 35 U.S.C. Section 282."

As described in more detail below, Fairchild has identified eleven prior art devices and references that are critical to its ability to make an adequate showing of invalidity of each of the seven claims it was found to infringe. Some of these references are discrete patents or publications. Other of the references are particular prior art devices. The operation of each prior art device is detailed in a variety of documents which collectively comprise a single invalidating prior art reference. *See e.g. Manual of Patent Examining Procedure*, § 2131.01 (stating that multiple documents can be used to show features are inherent in a single 35 U.S.C. § 102 reference). These documents are therefore necessary to prove invalidity and Fairchild would be prejudiced if it was not able to use all relevant documents that describe these devices.

Fairchild requires more than one piece of art per each of the seven asserted claims because Fairchild will be asserting obviousness of certain claims based on a combination of prior art. Additionally, in response to Fairchild's assertions that claims are obvious, Power Integrations will likely argue the factors of non-obviousness, including long felt need, adoption by others etc. *See Graham v. John Deere Co.*, 383 U.S. 1, 17 (U.S. 1966). In order to counter such assertions of non-obviousness, it is critical that Fairchild be allowed to present evidence that multiple inventors were heading towards the same obvious result. Any overlap or duplication in the eleven prior art references could be crucial to Fairchild's ability to persuade the jury that the claims are obvious and well-known. Precluding Fairchild from presenting any of its eleven prior art references thus will prejudice Fairchild's substantive right to defend itself against Power Integrations' infringement claims. Thus, we respectfully suggest that excluding the prior art evidence would be an abuse of this Court's discretion. *See Kearns v. Chrysler Corp.*, 32 F.3d 1541, 1547 (Fed. Cir. 1994) (in considering whether to reverse trial court's decision to exclude prior art at trial, Federal Circuit holds that "in order to show that the district

court abused its discretion in excluding the prior art evidence, [the defendant] must demonstrate that the exclusion prejudiced its substantive rights.”) Fairchild’s substantive rights are clearly prejudiced by the Court’s limitation of Fairchild’s case to seven references.

Moreover, use of eleven prior art references to show anticipation and obviousness of seven patent claims is reasonable and not prejudicial to Power Integrations. Fairchild produced each of these prior art references during discovery. Fairchild also identified this prior art in its expert reports and disclosed the references on its 35 U.S.C. § 282 statement, as well as in the deposition of James Beasom. Additionally, many of the references are Power Integrations’ own products (SMP240/260, SMP3 and SMP211 devices) or were in the possession of the inventors at the time the patents were being prosecuted (Wakaumi and Ludikhuizen). Indeed, three of the four asserted prior art devices are Power Integrations’ own products, which are prior art due to the fact that they had previously been on sale. Power Integrations should thus have been aware of at least six of the prior art references, as well as the applicability of those references to the asserted claims, well before filing the instant case.

#### **I. PRIOR ART REFERENCES FOR THE CIRCUIT PATENTS (‘876, ‘851, ‘366)**

The following seven prior art references and devices are critical to Fairchild’s defense that each of the five asserted claims of U.S. Patent Nos. 6,229,366 (the ‘366 patent); 6,107,851 (the ‘851 patent) and 6,249,876 (the ‘876 patent) (collectively the “Circuit Patents”) are either anticipated or obvious:

##### **1. U.S. Patent No. 4,638,417 (“Martin”) (Exh. DX-83).**

Martin will be relied upon to demonstrate that a) Claim 1 of the ‘876 patent is anticipated under 35 U.S.C. § 102 or is obvious under § 103; b) Claim 1 of the ‘851 patent is

anticipated under 35 U.S.C. § 102 or is obvious under 35 U.S.C. § 103 in view of Power Integrations' SMP211 device; and c) Claim 4 of the '851 patent and Claim 14 of the '366 patent are obvious under 35 U.S.C. § 103 in view of Power Integrations' SMP240/60 and SMP211 devices and/or the TEA2262 reference.

Martin is critical to establishing the invalidity of all of Power Integrations "frequency variation circuit" and "frequency jitter" claims. Martin discloses an internal, cyclic, frequency variation circuit for reducing EMI as claimed in the '876 and '851 patents. Without this reference in evidence, Fairchild will be prejudiced.

2. **"Programmed Pulsewidth Modulated Waveforms For Electromagnetic Interference Mitigation In DC-DC Converters", IEEE Transactions on Power Electronics, Vol. 8, No. 4 (October 1993) by A.C. Wang and S.R. Sanders ("Wang") (Exh. DX-1).**

Wang will be relied upon to demonstrate that a) Claim 1 of the '876 patent is anticipated under 35 U.S.C. § 102 or is obvious under § 103; b) Claim 1 of the '851 patent is anticipated under 35 U.S.C. § 102 or is obvious under 35 U.S.C. § 103 in view of Power Integrations' SMP211 device; and c) Claim 4 of the '851 patent and Claim 14 of the '366 patent are obvious under 35 U.S.C. § 103 in view of Power Integrations' SMP240/60 and SMP211 devices and/or the TEA2262 reference.

Although Wang is to some extent duplicative of Martin, the fact that more than one inventor independently invented very similar internal, cyclic frequency variation circuits could be critical to Fairchild's ability to establish the obviousness of the asserted claims of the '876 and '851 patents. Moreover, whereas Martin lacks explicit detail regarding the switch that is inherent in the DC-DC converter of the block diagram, Wang includes a diagram depicting the switch, including the terminals. This diagram could be critical to the jury's understanding of the invalidity of claims 1 and 4 of the '851 patent and claim 14 of the '366 patent, which expressly

requires a switch with two terminals. Without this reference in evidence, Fairchild will be prejudiced.

3. **“Acoustic Noise Reduction In Sinusoidal PWM Drives Using A Randomly Modulated Carrier”, IEEE Transactions on Power Electronics, Vol. 6, No. 3, July 1991, p. 356 by T.G. Habetler and D.M. Divan (“Habetler”) (Exh. DX-10).**

Habetler will be relied upon to demonstrate that a) Claim 1 of the ‘876 patent is anticipated under 35 U.S.C. § 102 or is obvious under § 103; b) Claim 1 of the ‘851 patent is anticipated under 35 U.S.C. § 102 or is obvious under 35 U.S.C. § 103 in view of Power Integrations’ SMP211 device; and c) Claim 4 of the ‘851 patent and Claim 14 of the ‘366 patent are obvious under 35 U.S.C. § 103 in view of Power Integrations’ SMP240/60 and SMP211 devices and/or the TEA2262 reference.

Although Habetler is to some extent duplicative of Martin and Wang, the fact that more than one inventor independently invented very similar internal, cyclic frequency variation circuits could be critical to Fairchild’s ability to establish the obviousness of the asserted claims of the ‘876 and ‘851 patents. Without this reference in evidence, Fairchild will be prejudiced.

4. **Power Integrations’ SMP211 device (described in Exhs. DX-76, -119). Power Integrations’ SMP211 device, as described in Power Integrations datasheets and schematics, will be relied upon to demonstrate that certain claims of the Circuit Patents are obvious as set forth in #’s 1-3 above.**

The SMP211 is critical because it includes details of a DC/DC converter such as that shown in the Martin, Wang or Habetler references, including the switch, terminals, drive circuit and oscillator with a Dmax signal. Neither Martin, Wang or Habetler show the level of detail included in the SMP211 device. The SMP211 is also critical to demonstrate a motivation to combine PWM devices with frequency variation and soft start circuitry, since the inventors conceded that this combination was “prior art.” Finally, the SMP211 is also critical to Fairchild’s defense of inequitable conduct because Power Integrations failed to disclose

sufficient detail of this device to the examiner and made misrepresentations to the examiner regarding this device. Without this device in evidence, Fairchild will be prejudiced.

5. **Power Integrations' SMP240/60 series device (described in Exhs. DX-69, -70, -71, -72, -73, -74, -80, -86, -90, -122, -123, -124, -125, -126). Power Integrations' SMP240/60 series (as described in Power Integrations datasheets, application notes, schematics, design specifications and articles) will be relied upon to demonstrate that a) Claim 9 of the '366 patent is anticipated under 35 U.S.C. § 102; and b) that certain claims of the Circuit Patents are obvious as set forth in #'s 1-3 above.**

The SMP240/60 series is critical because it contains an internal soft start circuit that is the same or equivalent to the soft start circuits disclosed in the '366 patent. The SMP240/60 series is also critical to Fairchild's inequitable conduct defense because Power Integrations failed to disclose this material prior art to the examiner. Without this device in evidence, Fairchild will be prejudiced.

6. **SGS –Thompson TEA2262 device (described in Exhs. DX-35, -51, -138).**

The TEA2262 device, as described in the SGS Thompson data sheets and application notes, will be relied upon to demonstrate that a) Claims 9 and 14 of the '366 patent and Claims 1 and 4 of the '851 patent are anticipated under 35 U.S.C. § 102; and b) that certain claims of the Circuit Patents are obvious as set forth in #'s 1-3 above.

The TEA 2262 is critical because it includes an internal soft start circuit that is the same or equivalent to the soft start circuits disclosed in the '366 patent and frequency variation circuit on the same chip. Also, the soft start circuit and frequency variation circuit of the TEA2262 use the same signal. Without this device in evidence, Fairchild will be prejudiced.

7. **Power Integrations' SMP3 device (described in Exhs. DX-17, -77, -78, -79, -91, -114, -353).**

Power Integrations' SMP3 device (as described in Power Integrations datasheets, application notes, schematics, design specifications and articles) will be relied upon to

demonstrate that Claim 9 of the '366 patent is anticipated under 35 U.S.C. § 102 or is obvious under 35 U.S.C. § 103.

The SMP3 device is critical to Fairchild's inequitable conduct defense because it contains an internal soft start circuit yet was not disclosed to the examiner. Without this device in evidence, Fairchild will be prejudiced.

## **II. PRIOR ART REFERENCES FOR THE '075 PATENT**

Each of the following four prior art references is critical to Fairchild's defense that the two asserted claims of U.S. Patent No. 4,811,075 (the '075 patent) are either anticipated or obvious:

### **8. U.S. Patent No. 4,823,173 ("Beasom") (Exh. DX-541).**

Beasom will be relied upon to demonstrate that a) Claim 1 of the '075 patent is anticipated under 35 U.S.C. §§ 102(e) and 102(g) or is obvious under 35 U.S.C. § 103; and b) Claim 5 of the '075 patent is obvious under 35 U.S.C. § 103 either based on Beasom, alone, or in combination with Wakaumi, Ludikhuize or Wacyk .

Beasom is critical to establishing invalidity of the asserted claims of the '075 patent. Beasom disclosed precisely the source and drain structure claimed in the '075 patent, including the extended drain region with a top layer of material of opposite conductivity. Without this reference in evidence, Fairchild will be prejudiced.

Power Integrations has countered that it invented before the filing date of the Beasom '173 patent. Fairchild will further establish that the invention and reduction to practice dates of U.S. Patent No. 4,823,173 ("Beasom") under 35 U.S.C. § 102(g) are earlier than the invention and reduction to practice dates of the '075 patent. In order to establish this, Fairchild will rely upon Mr. Beasom's notebooks, test wafers, and test results (**Exhs. DX-66, -128, -129, -130, -**

131, -132, -541, -542, -543, -544, -545, -546, -547, -548). Fairchild will also refer to U.S. Patent No. 4,283,236 ("Sirsi"), as it is incorporated by reference into the Beasom patent, and is therefore considered part of the specification of the Beasom patent. Without these additional Beasom references, Fairchild will be prejudiced because it will be unable to present its prior invention case under 35 U.S.C. § 102(g).

9. **H. Wakaumi, "A Highly Reliable 16 Output High Voltage NMOS/CMOS Logic IC With Shielded Source Structure," IEDM 83, pp. 416-419 (1983) ("Wakaumi") (Exh. DX-55). Wakaumi will be relied upon to demonstrate that**
  - a) **Claims 1 and 5 of the '075 patent are obvious under 35 U.S.C. § 103 in light of the Ludikhuize reference;**
  - b) **Claim 5 of the '075 patent is obvious under 35 U.S.C. § 103 in view of the Beasom reference as set forth in # 8, above.**

Wakaumi is critical to establishing invalidity of the asserted claims of the '075 patent. To the extent the jury disagrees that the metal contacts of claim 1 of the '075 patent are not actually or inherently disclosed in Beasom, the jury will need to consider the issue of obviousness. Wakuami and Ludikhize combined contain each and every element of claim 1. As discussed above, when establishing obviousness, it could be critical to present evidence that more than one inventor was heading towards the obvious invention. Wakuami is also critical to establishing that the combination of high voltage and low voltage devices on a single chip, as claimed in claim 5 of the '075 patent, was well known. Wakuami is also critical to Fairchild's inequitable conduct defense because Power Integrations inventor Klaus Eklund knew about the article and referred to it in his notes, yet failed to disclose this material prior art to the examiner. Without this reference in evidence, Fairchild will be prejudiced.

10. **A. Ludikhuize, High-Voltage DMOS and PMOS in Analog IC's, IEDM 82, pp. 81-84 (1982) ("Ludikhuize") (Exh. DX-56).**

Ludikhuize will be relied upon to demonstrate that Claim 1 and 5 of the '075 are obvious under 35 U.S.C. § 103 as set forth in #'s 8 and 9 above.



Ludikhize is critical because it provides the top layer of opposite conductivity lacking in Wakuami. It is also critical to establishing that the combination of high voltage and low voltage devices on a single chip was well known and to establishing Fairchild's inequitable conduct defense. Again, although Mr. Eklund knew of this material art, it was not disclosed to the patent office. Without this reference in evidence, Fairchild will be prejudiced.

**11. I. Wacyk, M. Amato & V. Rummennick, "A Power IC with CMOS Analog Control," (1986) ("Wacyk") (Exh. DX-58).**

Wacyk will be relied upon to demonstrate that Claim 5 of the '075 patent is obvious under 35 U.S.C. § 103 in view of the Beasom reference as set forth in # 8, above.

Wacyk is critical to establishing that the combination of high voltage and low voltage devices on a single chip was well known. Because this is an issue of obviousness, the fact that multiple references for combining low voltage with high voltage could be critical to countering any assertion of non-obviousness and establishing Fairchild's invalidity defense. Without this reference in evidence, Fairchild will be prejudiced.

### III. CONCLUSION

For all of the foregoing reasons, Fairchild should be permitted to rely upon each of these eleven prior art references, which are critical to Fairchild's invalidity case.

ASHBY & GEDDES

*/s/ John G. Day*

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**CERTIFICATE OF SERVICE**

I hereby certify that on the 3<sup>rd</sup> day of November, 2006, the attached **OPENING BRIEF  
IN SUPPORT OF DEFENDANTS' REQUEST TO USE ELEVEN PRIOR ART  
REFERENCES DURING THE INVALIDITY PHASE OF TRIAL** was served upon the  
below-named counsel of record at the address and in the manner indicated:

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